

meetings will cover a wide range of subjects, and will be given by men of experience in the United States and in Canada.

Construction work in all branches will be very active during 1910, and those interested in the manufacture and sale of cement and in the various systems of reinforcements, as well as in the planning and designing of works where this material may be used, will find it to their advantage not only to support this exhibition, but to attend it.

SUB-CONTRACTS ON THE RAILWAY.

The number of large railroad contracts that are now being closed raises again the question of the relation between the engineer, the sub-contractor and the station men.

Railway companies are in the habit of letting large stretches of their road to one large company, preferring to deal with one firm instead of twenty. The main contractor sublets in from two to ten-mile sections to sub-contractors, of course, making the best bargain they can with him, and usually managing to get him to take the work at a price from ten to twenty per cent. less than they received from the railway. The sub-contractor frequently sublets to station men at prices varying from fifteen to twenty per cent. less than they received from the contractor. The resident engineer then has to require from the men who do the work, at forty per cent. less than contract price, that they live up to the specifications.

It is all very well to say that the engineer in passing work must not take into consideration the conditions under which the man gets the work. Nor will it do to say that the chief engineer knows the conditions under which the work was let. The chief engineer will require from every resident engineer that he get a dollar's worth of work for every dollar spent by his company.

It is about time that some new arrangement was entered into between the railways and the contractors who do not do the work themselves. A dividing of the contracts into sections would make it possible for the men who took the contract to supervise their own work instead of making a few contractors rich at the expense of sub-contractors and station men. The railways would get better work done at a lower price. The men who do the work will get the money, and the resident engineer will have little difficulty in securing fulfilment of his specifications.

POWER TRANSMISSION.

It is a much-discussed question, the Transmission of Power. As to whether electrical or mechanical transmission is the cheaper will depend on the conditions under which the respective methods of transmission may be called upon to operate.

It is not probable that mechanical transmission will be ever entirely superseded by electrical methods, as there are conditions and circumstances under which mechanical transmission is much more efficient.

There are conditions under which electrical transmission would be very unsuited; for example, on machine driven at constant speed in one direction. A similar machine on which varying speeds and both directions of motion were required the advocates of electrical transmission will doubtless be able to show their system to great advantage.

Another condition under which electrical transmission may be very advantageously employed is in mills and factories where several line shafts driving machines by belts. In such cases the power loss in transmission is great.

The installation of electric transmission is very elastic, and makes it possible to enlarge and extend the shops and machinery with but little trouble. Small machinery may be worked by itself independent of other parts of the plant, and the power required for each machine be very conveniently measured; and in addition, the location of the power plant is not so important as when a mechanical drive is used.

For mechanical transmission extensions to the system are difficult to provide, and when the transmission has to be through long lengths of shafting the power is wasted.

Mechanical transmission is usually much less expensive than electrical, both as regards initial outlay and running cost, but the measurement of power is more easily effected with electrical transmission, and where even turning is required the electrical system will be the more suitable, although equal results may be obtained from either systems in respect to even turning and output.

THE PLANNING OF A TOWN.

Recently we had an editorial on this question, in which we suggested the necessity of careful planning and perfecting of schemes before town sites are placed on the market or addition to present towns was made.

Since then a Bill has been introduced into the Ontario Legislature by the Honorable the Minister of Crown Lands, which provides that one-quarter of the space included in newly laid out town sites shall become the property of the Province of Ontario. In the discussion on this Bill, which on the face of it appeared to apply only to New Ontario, it became evident that from the wording of the context it might be made to apply to the whole Province.

It goes without saying that the Province must have funds to carry on government; it is also known that the more indirect the tax the less trouble there is in defending the tax rate, but we think it very unfortunate that the Government should place a premium upon haphazard work by taxing to the limit carefully prepared, well-planned and competently designed schemes.

This is what such a tax must mean.

If the land is sold lot by lot in some hit-and-miss manner, without any definite scheme as to future development or the segregation of the manufacturing, business and residential districts, it will not be a town site. But when a man secures a piece of property, lays it out in streets, boulevards and crescents; plans for pavements, parks and drives and perfects his plan, the moment he registers his plan and puts it upon the market, his enterprise is taxed at the rate of twenty-five per cent.

It is unfortunate that in an endeavor to retain for the Province an interest in the unearned increment value in new town sites the Government should hit upon a plan which is such a direct blow on good work. The desire to obtain revenue should be subordinate to the possibility of future beauty and convenience of growing towns. Most of the defects in the planning of Canadian Towns and Cities is the result of growth without vision; of expansion without direction; and if this measure proposed